

Penta Systems International

Basic Programs

This outline provides a quick overview of the 18 software programs that form Penta Systems for computerized phototypesetting. Many of the programs outlined below function in more than one phase of the system, but they are listed only once for simplicity of explanation.

The boldface number in parenthesis behind every major heading of this outline refers to a page in the Penta Systems Capabilities Booklet where you can find a more detailed explanation of the subject.

All of the software programs shown on this side of the chart are included with the purchase of a basic Penta System. Optional, extra cost programs are outlined on the other side of this chart.

Input (3)

I Phototypesetters currently being used with Penta Systems

- A. Mergenthaler
 - 1. V-I-P
 - 2. Linotron 202
 - 3. Linotron 404
 - 4. Linotron 606
- B. Harris
 - 1. 1200
 - 2. 4000
 - 3. TXT
- C. Compugraphic
 - 1. Unisetter
 - 2. 9000
 - 3. 9001
 - 4. 8600
 - 5. Videosetter
- D. Addressograph Multigraph
 - 1. 725
 - 2. 500
 - 3. 748
- E. Dymo Photon
- F. Autologic
 - 1. APS 4
 - 2. APS 5
 - 3. APS Micro 5
- G. Seaco
- H. MGD Metroset

II Methods of Input currently being used by Penta customers

- A. Input keyboards with any coding
- B. Paper tape
 - 1. Six-level TTS coding
 - 2. Seven-level ASCII coding
 - 3. Eight-level EBCDIC coding
- C. Magnetic tape
 - 1. Seven or nine track
 - 2. Eight hundred or 1600 bits per inch
- D. Computer tape
- E. Floppy disc
- F. Rigid disc
- G. Terminals
- H. OCR Scanners
- I. Word processing systems

III Command coding

- A. The simpler the better
- B. Flexible command code structure
 - 1. Use ours
 - 2. Create your own
 - a. **rr** can mean ragged right
 - b. **bt** can mean begin tab
 - c. Anything that seems logical to you

- C. Strike one key, let the computer insert string of commands
- D. Formats
 - 1. Up to 9999 formats available
 - 2. Universal formats
 - a. Shared by many jobs
 - b. Select all or part for current job
 - 3. Job formats
 - a. Written only for parts not covered by universal formats
 - b. Coded by markup people
 - c. Keyboarding simple matter of following markup
 - 4. Copy merge
 - a. Triggers systems to retrieve instructions from format
 - b. Let the computer take over to
 - 1) Calculate indents, spacing, etc.
 - 2) Insert footnotes and collate
 - 3) Look up and insert commands for Pi characters
 - c. Copy given to several operators
 - 1) Unjustified text can go into system at any time
 - 2) Merge collates copy automatically in sequence
- E. Expand the range of your keyboards two, three, four times

IV Input programs

A. Bonus features

- 1. No matter how many operators are working on job, you only need to load instructions once—not for each tape
- 2. Production menu appears on screen at beginning of each process
 - a. Essentially a checklist
 - b. Operator fills in menu before proceeding with job

B. Read Program

- 1. Input can come from
 - a. On-line terminals
 - b. Tape—paper, magnetic, computer
 - c. OCR scanners
 - d. Disc—floppy, rigid
 - e. Word processors
 - f. Keyboards
- 2. As input is read, line numbered file is also created
 - a. Numbered lines are used for editing
 - b. Line numbers can be produced on line printer and typesetter output
- 3. Converts keyboard codes to Penta codes

C. FALT Program

- 1. FALT = Find and Alter, Find and Add, Find and Delete
- 2. FALT menu prompts operator
- 3. Searches for and replaces up to 150 strings of characters simultaneously
- 4. Universal FALTs can be created for clients who use many technical terms
 - a. Assign abbreviations in place of complex terminology
 - b. Keyboard copy using abbreviations
 - c. Let system automatically find/replace abbreviations with the correctly spelled words

D. Input Verification Program

- 1. Scans input for command errors
 - a. Flags the error
 - b. Continues to scan input
 - c. Shows errors on screen for correction by operator
 - d. Operator corrects all errors
- 2. Checks command codes against what the typesetter is allowed to do
- 3. Converts some of the input information before H&J so that when H&J takes place the computer will have less to do

E. AutoSort Program

- 1. Automatically finds and inserts codes for Pi characters
- 2. If operator wants a percent mark (%):
 - a. Operator keys ;**pc**
 - b. System automatically:
 - 1) checks style and weight of type being used
 - 2) Looks up character location
 - 3) Places font number and character codes on tape
 - 4) Returns job to original font
- c. Meanwhile operator continues keying the job
- 3. Keystrokes for AutoSort never change with different type fonts . . . this reduces errors and makes system easier to learn
- 4. AutoSort used for
 - a. Pi characters
 - b. Superiors/inferiors
 - c. Numbers (superior or inferior)
 - d. Greek letters (upper and lower case)
 - e. Accents
- 5. System distinguishes between 16 different type characteristics so that Pi character inserted will match the typeface being used as closely as possible

Computer Processing (8)

I Bonus features

- A. Visuals at start of each tape tell operator what fonts to load, job name, date, etc.
- B. Width values of type fonts stored in system
 - 1. Signal from tape or computer will automatically insert the correct width information
 - 2. Eliminates need for width tape loading

II Typographers Spacing Program

- A. Word spacing program for super-fussy customers
- B. During H&J process
 - 1. Word spacing and hyphenation decisions are made
 - 2. As a result
 - a. One line may be set with max space allowable between each word
 - b. Next line may be set with min space allowable between each word
- C. Typographers' Spacing Program permits you to
 - 1. Select optimum space between words
 - 2. Specify different spacing for the same typeface according to the wishes of each customer
- D. Typographers Spacing Program will process and re-process a paragraph up to five times to give optimum space

- E. If optimum interword spacing cannot be achieved, the program will:
 - 1. Automatically add/subtract space between words up to max/min specified
 - 2. Automatically letterspace (plus/minus)
 - 3. Automatically hyphenate
- F. End result will be equal space—although not optimum space—between each word on each line of whole paragraph
- G. For the next paragraph, Program again will try for optimum spacing
- H. In addition, Program automatically
 - 1. Creates ligatures
 - 2. Kerns
 - 3. Eliminates widows
 - 4. Selects Pi characters
 - 5. Copyfits to whatever point size will fit

III Ragged Program

- A. Most sophisticated program in industry
- B. Control degree of rag in three ways:
 - 1. Define range in which line should end
 - 2. Specify where each line is to break within X-number of points of the line above/below it
 - 3. Create "try table" with 16 different spacing combinations which computer will "try" to get ragged setting exactly as you want it

IV Kerning Program

- A. Kerning of entire passages of copy
 - 1. Can decrease space between characters in fractions of a point
 - 2. Variable space kerning
 - a. Create your own standard for kerning
 - b. Design own four-track kerning table
- B. Kerning of character pairs
 - 1. Can kern up to 500 pairs
 - 2. Each typeface can have its own kerning values so long as the same 500 character pairs are used
- C. Kerning is performed automatically

V Hyphenation/Justification Program

- A. Hyphenation—tries to achieve optimum word spacing
- B. You can specify
 - 1. Max/min/optimum word spacing
 - 2. Max/min letterspacing
 - 3. Preferred word spacing
 - 4. Min number of characters before and after hyphenation
 - 5. Max number of consecutive hyphens
 - 6. Allow or not allow paragraph widows
- C. Sequence to hyphenation of words
 - 1. Strip suffixes
 - 2. Look up word in exception dictionary
 - 3. Most definitive rules of logic in industry

- D. Exception word dictionary
 - 1. 10,000-word primary dictionary with expandable capacity
 - 2. 4,000-word secondary dictionary with expandable capacity
 - 3. Portions of words, rather than entire words, may be added to conserve space
 - 4. Duplicate dictionaries for shops that use both Webster's & Random House
- E. Spot H&J
 - 1. If customer makes changes, job will have to be re-H&J'd
 - 2. With Penta, don't have to re-process entire job
 - a. Can process a small portion
 - b. System will automatically gather all parameters of "spot"
 - c. File will automatically be updated

VI MultiTask Processing Program

- A. Computer automatically moves from one job to another in order of priority assigned without operator involvement
- B. Can stack work in computer during day, go home, and let system process the workload during the night

- C. If system spots command error
 - 1. Computer notes the error, time, date
 - 2. Scans rest of the job for other errors
 - 3. Provides error message for operator
 - a. Job number "X" is suspended
 - b. Time and date error was detected
 - 4. Then computer moves to next job and processes it
- D. Jobs can be given priority number
 - 1. Rated from one to nine
 - 2. Computer moves from job to job in order of priority
 - a. Does all number 1 jobs first
 - b. Then does all number 2 jobs, etc.
- E. All this can be going on while copy is being edited at terminals

VII Variables Program

- A. This is the calculating program
- B. System will copyfit tables
- C. Save time operators now spend
 - 1. Looking up unit values for characters
 - 2. Working out spacing
 - 3. Inserting commands
- D. Multiple mark and return to mark pointers

VIII Indentions Program

- A. Can combine sets of indent commands
- B. Indentions of unknown amounts can be calculated and saved by Variables Program
- C. Indentions can be specified in
 - 1. Picas and points
 - 2. Ens and thins
- D. Indents can be activated for one paragraph or for successive paragraphs
- E. Positive and negative skewing is allowed

IX Tabular Program

- A. Any commands given in text can be given in tab
- B. Multiple point sizes/leading are allowed
- C. Reverse leading not necessary
- D. Minimizes time-consuming manual calculations—computer does most of these
- E. Can straddle columns horizontally
- F. Straddle head can start in any column
- G. Copy automatically can be positioned vertically, top, bottom, or center
- H. Equations can be used within columns
- I. System will automatically insert horizontal and vertical rules in any of 10 different weights if using Linotron 202
- J. Penta is only system that has licked the problem of making the rules align properly

Editing (13)

I The PentaVue Terminal

- A. Movable keyboard and 15-inch CRT on base that permits operator to adjust screen
- B. Manufactured by Data General for Penta
- C. The terminal automatically:
 - 1. Underlines italicized copy
 - 2. Displays bold copy at half intensity
 - 3. Displays bold italic copy at half intensity and underlined
- D. Operators may choose to display or suppress command codes
- E. Ninety-nine user programmable memory files with contents stored on computer disc
- F. Bi-directional scrolling; an industry first
 - 1. Terminal displays tabular copy side by side in tab fields
 - 2. If table is too wide for screen, the operator can scroll horizontally
 - 3. Terminal scrolls up, down, sideways

II Pinpoint scrolling

- A. When copy is read into system each line is numbered automatically
- B. Line numbers may print or may not print on output
- C. To edit, operator simply keys number of line to be corrected, makes the change, verifies by reverse video, moves to next correction
- D. Pinpoint scrolling saves over 50 percent of time spent looking for copy to correct
- E. Pinpoint scrolling works with both the PentaVue terminal and conventional CRT's but bi-directional scrolling is available only with the PentaVue terminal

III System has all standard features

- A. Character overstrike
- B. Delete
- C. Insert
- D. Block move of one line or more
 - 1. Define block of copy
 - 2. Move that block with/without deleting
 - a. To new job
 - b. To different location in same job
 - 3. Save block for a future job
 - 4. Can insert block any number of times
 - 5. Can store any amount in block or blocks off-line

Proofing (14)

I VDT proofing for in-house use

- A. Limits equipment earning potential
- B. No hard copy record of the job

II Hard copy proofing—line printer

- A. Reduces number of VDT's needed and frees existing VDT's for editing/input
- B. Gives record copy of job and allows experimentation with area composition
- C. Prints value of indents, depth of lines, and amount of rag

III Hard copy proofing—typesetter

- A. New, high-speed typesetters are faster than line printers
- B. Display type in correct size and style so savings in printout time and editing time offsets additional expense of chemistry and paper

Output (14)

I Output Program

- A. Takes internal codes used by the system and converts them into codes that will run whatever phototypesetter you own
- B. Can send output directly to typesetter or to a temporary file (TP File)
- C. When TP File is used, customer will:
 - 1. Input and edit during the day
 - 2. Turn work of the day over to the MultiTask Processing Program at night which processes the jobs and then outputs the work to the TP File
 - 3. In morning, previous day's work is ready to go to the typesetter
 - 4. Work is sent to typesetter while operators input and edit new jobs
 - 5. Can interrupt automated process at any time to set rush copy

II Guide Slugs Program

- A. Sizes galley length to suit Xerox copier
- B. Automatically prints galley and job number

File and Production Management (15)

I Update Program

- A. Every time an addition or correction is made, the base file is automatically updated so there is always the latest version
- B. Operators have choice to update or not

II File Management Program

- A. System keeps track of all jobs and tells you where each is located
- B. System keeps track of how much room is left on each disc . . . up to 100 discs

III Production Management Program

- A. Program gives a status report for each job and all tapes that make up the job
- B. Printout will tell: styles for the job, stage of completion, which tapes are loaded into system, which packs they are on, how often job was H&J'd

IV Operator Statistics Program

- A. Captures and remembers job number, tape number, number keystrokes, etc.
- B. Basis for management decisions

Optional Programs

Optional Programs (17)

- I Pagnation Program**
- A. Most phototypesetters are physically capable of setting complete page repros if the proper instructions are given when the job is keyboarded
- B. Problem is
1. Until the job is set, no one knows how much space the copy will take
 2. Until job is set, no one knows where footnotes will fall
 3. Keystrokes for copy are already captured, so problem lies in telling typesetter how to act on those keystrokes.
- C. The PentaPage Program makes your present phototypesetter turn out perfectly spaced, completely made-up repro pages in multi-column formats
1. Automatic positioning of
 - a. Running heads
 - b. Running feet
 - c. Folios
 2. Can still change typefaces, type sizes
 3. The system does most of the work and all the computations
- D. Nested formats are the key to the system
1. Single keystroke (copy merge) triggers system to report for instructions
 2. After picking up its format messages, system returns to copy
 3. System skips back and forth between formats and copy
 4. Example
 - a. Instruct system to pick up footnote 57 and collate that copy automatically into its proper sequence
 - b. If customer changes mind and wants all footnotes taken from end of chapter and interspersed throughout the chapter, simply tell the computer
 - c. No need to re-key copy
 - d. Computer does job while you do something else
 - e. If customer changes mind and wants all footnotes moved back to end of chapter . . . tell computer

The programs outlined on this side of the chart are not included with the purchase of a basic Penta Systems software package. All of the programs included with the basic package are outlined on the other side of this chart.

II Data Base Typography Program

- A. Program saves time that would be spent rekeyboarding data customer already has in computer-acceptable form and lets you alter that information or add to it
- B. Converts the already-captured data into your keyboard coding
- C. Copy and typographic commands may be inserted automatically between any fields
- D. Utilizes fielded data already recorded by customer on
1. Seven- or nine-track mag tape
 2. Punched cards
- E. Once converted
1. Data may be output in any order desired
 2. Data may be repeated
 3. Numbers can be rounded
 - a. Normally
 - b. Up or down
 4. Decimals can be inserted or moved
 5. Numbers can be multiplied
 6. Commas can be inserted
 7. Alphabetic letters can be output as all caps or output as caps and lower case

III PentaSort Program

- A. Will sort up to 100 separate disc files
1. A file may contain 32,000 entries
 2. An entry may contain 3400 characters
- B. Divide entry into fields such as first name, last name, occupation
- C. Select field or fields to be sorted such as first name and last name
- D. Choose output order such as last name then first name
- E. Program will sort all 32,000 entries, alphabetize by first name and last name, then output by last name then first name
- F. If a field contains numbers, the program will arrange them numerically
- G. Program uses first 40 characters in a field for identification purposes so if we keyboard a person's occupation (lawyer) we can add descriptive terms that will divide broad categories into smaller segments such as lawyer tax, lawyer divorce
- H. Because program will output up to 3400 characters per entry, legal case histories can be sorted by state, by judge, by title and a summary of the legal principle involved can make up a major portion of the output

IV PentaMath Program

- A. Example of equation set in less than five minutes time
- $$\sum_{n=K+1}^L \left(\frac{2n}{L} - 1 \right) \binom{L}{n} = \sum_{m=L-(K+1)}^0 \left[\frac{2(1-m)}{L} - 1 \right] \binom{L}{m}$$
- $$= \sum_{m=K}^0 \left(1 - \frac{2m}{L} \right) \binom{L}{m}, L \text{ odd,}$$
- $$= \sum_{m=K+1}^0 \left(1 - \frac{2m}{L} \right) \binom{L}{m}, L \text{ even,}$$
1. Notice this equation contains
 - a. Font changes
 - b. Vertical positioning
 - c. Centering within tabs
 - d. Pi characters
 - e. Rules
 - f. Superiors
 - g. Inferiors
 2. With this equation there was no need
 - a. For copy markup
 - b. To count characters
 - c. To use reverse leading
- B. With PentaMath
1. All leading adjustments are performed automatically
 2. Multilevel superiors/inferiors are produced in diminishing sizes with vertical position adjusted automatically
 3. Equation numbers are keyed to be output centered or flush left/right
 4. Can change point size without special calculation
 5. Input may be from
 - a. Any paper-tape producing keyboard
 - b. Ordinary typewriter with copy fed through scanner
 - c. VDT terminal
 6. Codes are few and easy to learn
 7. No technical knowledge of math needed
 8. Can use cottage typists

Equipment and Service (22)

- I Recommended equipment**
- A. You may need only part of the listing
- B. The equipment
1. Central processing unit
 - a. Data General Nova 3 and Nova 4
 - b. Data General Eclipse S130, S230, or C330
 - c. 10, 20, 50, 96, or 190 megabyte discs for mass storage
 2. Console device
 - a. Data General "Dasher"
 3. VDT editing terminal
 - a. BeeHive International B300
 - b. Terminal
 4. Line printer
 - a. General Electric Terminet 120
 - b. General Electric 340
 - c. Data Products Y219
5. Paper tape punch
 - a. Teletype BRPE (110 cps)
6. Paper tape reader
 - a. Digitronics (300 cps)
7. Dual floppy disc system
 - a. Data General
8. Magnetic tape system
 - a. Data General 7-9 track
- II All inclusive service available**
- A. Nationwide service network
- B. Over 1100 service personnel
- C. Software support

Learning the System (23)

I A Penta Systems sale includes

- A. Basic system
1. Complete training at Penta
 2. Several days at your facility
 3. Manuals
 - a. **Handbook for Keyboard Input to Computer-Assisted Composition**
 - 1) Guide for mark-up and keyboard personnel
 - 2) Gives every coding command and examples of use
 - 3) Gives AutoSort command code structure
 - 4) Tells how to prepare FORMATS
 - 5) Tells how to prepare FALTS
 - 6) Tells how to go about editing
 - 7) Glossary of symbols and terms

- b. **System Generation and Alteration Manual**
- 1) Explains Penta's system
 - 2) Shows you how to create a system tailored to your own operation
 - 3) Tells how to alter the system

- c. **Computer Operator's Manual**
- 1) How to operate Penta software
 - 2) Instructions on hardware handling
 - 3) Error messages and probable causes
 - 4) Flow charts for programs
 - 5) Flow charts for the system

- B. Optional Programs
1. Additional training sessions
 2. Appropriate documentation

II How to add future capabilities to your system

This is paragraph 6 of a large tape. The Baltimore Rigging Company was founded almost forty years ago. From the outset, we developed innovations in our profession which have made our work more efficient, skillful, and most important, safer. For these reasons, we've participated in most major rigging projects in the Baltimore area. But as time marched on, we also made progress in other areas. We're no longer just a rigging company. We perform milwrighting, industrial equipment installation, conveyor and track work, mechanical piping, environmental installations, and now we will describe ourselves as industrial systems engineers.

This is paragraph 7 of a large tape. The Baltimore Rigging Company was founded almost forty years ago. From the outset, we developed innovations in our profession which have made our work more efficient, skillful, and most important, safer. For these reasons, we've participated in most major rigging projects in the Baltimore area. But as time marched on, we also made progress in other areas. We're no longer just a rigging company. We perform milwrighting, industrial equipment installation, conveyor and track work, mechanical piping, environmental installations, and now we describe ourselves as industrial systems engineers and leaders.

This is paragraph 8 of a large tape. The Baltimore Rigging Company was founded almost forty years ago. From the outset, we developed innovations in our profession which have made our work more efficient, skillful, and most important, safer. For these reasons, we've participated in most major rigging projects in the Baltimore area. But as time marched on, we also made progress in other areas. We're no longer just a rigging company. We perform milwrighting, industrial equipment installation, conveyor and track work, mechanical piping, environmental installations, and now we describe ourselves as industrial systems engineers and leaders in our specialized field.

This is paragraph 9 of a large tape. The Baltimore Rigging Company was founded almost forty years ago. From the outset, we developed innovations in our profession which have made our work more efficient, skillful, and most important, safer. For these reasons, we've participated in most major rigging projects in the Baltimore area. But as time marched on, we also made progress in other areas. We're no longer just a rigging company. We perform milwrighting, industrial equipment installation, conveyor and track work, mechanical piping, environmental installations, and now we describe ourselves as industrial systems engineers.

This is paragraph 10 of a large tape. The Baltimore Rigging Company was founded almost forty years ago. From the outset, we developed innovations in our profession which have made our work more efficient, skillful, and most important, safer. For these reasons, we've participated in most major rigging projects in the Baltimore area. But as time marched on, we also made progress in other areas. We're no longer just a rigging company. We perform milwrighting, industrial equipment installation, conveyor and track work, mechanical piping, environmental installations, and now we describe ourselves as industrial systems engineers.

Indentations are easy. To produce the "X" shape above, a user plots the max and min line lengths for the text, and Penta's Variables Program calculates the values that produce the above result.

$$\mu = (1)^L \left[\sum_{n=0}^K \left(1 - \frac{2n}{L} \right) \binom{L}{n} + \sum_{n=K+1}^L \left(\frac{2n}{L} - 1 \right) \binom{L}{n} \right]$$

Let m = L - n; by use of (8), the second summation in (13) becomes

$$\sum_{n=K+1}^L \left(\frac{2n}{L} - 1 \right) \binom{L}{n} = \sum_{m=L-(K+1)}^0 \left[\frac{2(1-m)}{L} - 1 \right] \binom{L}{m}$$
$$= \sum_{m=K}^0 \left(1 - \frac{2m}{L} \right) \binom{L}{m}, L \text{ odd,}$$
$$= \sum_{m=K+1}^0 \left(1 - \frac{2m}{L} \right) \binom{L}{m}, L \text{ even,}$$

which, after the index m is replaced with n, becomes

$$\sum_{n=K+1}^L \left(\frac{2n}{L} - 1 \right) \binom{L}{n} = \sum_{n=0}^K \left(1 - \frac{2n}{L} \right) \binom{L}{n}, L \text{ odd,}$$
$$= \sum_{n=0}^{K+1} \left(1 - \frac{2n}{L} \right) \binom{L}{n}$$
$$= \sum_{n=0}^K \left(1 - \frac{2n}{L} \right) \binom{L}{n}, L \text{ even,}$$
$$= \sum_{n=0}^K \left(1 - \frac{2n}{L} \right) \binom{L}{n}, L \text{ odd or even.}$$

The logical relation between what an equation says and how it is keyed makes math an easy task. The system does all the difficult spacing, leading, positioning, and adjusting of superiors/inferiors in proportional size.

The four parts of the draft regulations that are of particular concern to the Commission are they stand apart not to reflect the intent of legislative history. The Commission urges that the President sign the regulations within the next few weeks so that the school year will begin with the regulations in place.

Enforcement of Titles VII and VIII of the Public Health Service Act of 1971⁸³

The DWT Commission recommends that the Secretary of the Department of Health, Education, and Welfare (HEW) take immediate steps to publicize widely the provisions of the Public Health Service Act prohibiting sex discrimination in admission to Federally funded health training programs and to develop an effective enforcement program, including prompt handling of complaints and compliance reviews.

Background

Titles VII and VIII of the Public Health Service Act, 42 U.S.C. 2051-5 and 2086-2, were passed in 1971. They provide that institutions of medicine, nursing, and allied health fields which received Federal funds cannot discriminate on the basis of sex. While the coverage of the Public Health Service Act is substantially the same as title IX, it does include two situations which are exempted under title IX. The first covers admission policies to single-sex schools and prohibits discrimination on the basis of sex. The second covers admission to private undergraduate schools. If students are admitted to a specific health training program, there can be no sex discrimination in admissions. If, on the other hand, students are admitted for a course of general study and later select a health training program as a course of study, all admission policies must be free from sex discrimination. There are no affirmative action requirements.

⁸³Recommendation approved by Enforcement of the Laws Committee Sept. 16, 1975; by DWT Commission by letter, announced Dec. 5, 1975.

⁸⁴All except elementary and secondary level schools; direct care institutions for higher education used by the Carnegie Commission on Higher Education.

Despite the clear language and intent of the statute, HEW did not promulgate even proposed implementing regulations until September 20, 1975 (38 Fed. Reg. p. 26385). Those regulations were not issued in final form until July 7, 1975 (40 Fed. Reg. p. 28572), 4 years after passage of the act. During this period, HEW conducted no meaningful enforcement activities. Moreover, since promulgation of the final regulations, the agency has given no indication of becoming any more vigorous in the enforcement of the act.

Model Compliance Reviews in Educational Institutions⁸⁴

The DWT Commission recommends that the Department of Health, Education, and Welfare (HEW), Office of Civil Rights, should conduct model contract compliance reviews of various types⁸⁵ of educational institutions: school districts on both the elementary and secondary level, doctoral-granting institutions, comprehensive colleges and universities, 2-year colleges and universities, professional schools and other specialized institutions, and liberal arts colleges. Any deficiencies uncovered during the review should receive appropriate enforcement and the results should be widely publicized.

⁸⁵Recommendation approved by Enforcement of the Laws Committee Sept. 16, 1975; by DWT Commission by letter, announced Dec. 5, 1975.

⁸⁶All except elementary and secondary level schools; direct care institutions for higher education used by the Carnegie Commission on Higher Education.

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Once the parameters for a PentaPage have been determined, the program will run automatically and without interruption after H&J has been completed. So it can go from editing to H&J to type pages without manual intervention. There is automatic positioning of running heads, running feet, and folios. You can still change typefaces, type sizes, etc.

3.5 Iso The A. b 3.6 Po A d combu ization 3.7 Po The Alternat in main 3.8 Re The intensity antenna express 3.9 So The frequency 3.10 S The ratio of the maximum to the minimum voltage or current appearing along a n line. 3.11 V The Nominal impedance	opic Radiator spherical antenna radiating or receiving equally in all directions. ern Recorder ice that records the amplitude of the output signal from an antenna and receiver n as a function of the antenna orientation. rientation rientation of the electric-field vector of the wave radiated by an antenna, y, the orientation of the electric-field vector of an incident wave which results n available power at the antenna terminals. ive Antenna Gain itu of the radiation intensity of an antenna in a given direction to the radiation a reference antenna in the same direction, with the same power input to both if the reference antenna is a lossless half-wave dipole antenna, the gain is n decibels relative to the dipole antenna, dBd. Ratio atio of the operating frequency of a scale model antenna to the operating of the full size antenna. nding Wave Ratio (SWR) atio of the maximum to the minimum voltage or current appearing along a n line. id Velocity Rating aximum wind velocity that an antenna assembly can withstand without physical damage.
4. REQUIREMENTS	
4.1 Pe The um 4.2 U The shall inc	rmance Requirements Items shall meet or exceed all the requirements of this standard as given below rized in table 1. Information ormation supplied to the purchaser by the antenna manufacturer or distributor e the following: Operating frequency range Antenna power rating Relative antenna gain vs. operating frequency Polarization Vertical radiation pattern Horizontal radiation pattern Nominal impedance
Tabl tema Characteristic	Minimum Requirement
ower Operation	No physical damage
Relat Antenna Gain	± 1.0 dB of max relative gain
Radia n Pattern	± 1.0 dB or 10% of max relative gain, whichever is greater
Stanc Wave Ratio	1.5 or less
Wind ocity Rating	See table 2
2	

The PentaPage program simply does all the computing and most of the keyboarding.

The following is an example of the amount of tabular flexibility that a user has when he is working with the PentaWare system. The initial tab stops for this example are set at 10t,2g,10b,2g,10c,2g,6t (10 picas top aligned, 2 pica gutter, 10 picas bottom aligned, 2 pica gutter, 10 picas center aligned, 2 pica gutter, 6 picas top aligned).

PentaWare allows tabular material to be keyed in any pointsize, leading and font that the user desires. This column is set in 8/10 Century Expanded roman.	<i>The last column is set 7/8 Bodoni Bold italic at the beginning, then changes to 6/6 Century Expanded roman. The depth of the material in this column is greater than any of the previous columns and is therefore used as the base for the vertical alignments designated when the tab stops were defined.</i>
This column is set in 10/12 Bodoni Bold roman	
<i>This column is set 9/11 Century Expanded italic.</i>	

Another feature of PentaWare's tabular is its support of straddle heads. In order to demonstrate the full impact of straddle heads, we will show more columns in the following table.

Note that multiple point sizes and leadings are still allowed.	This line straddles 4 columns.				These lines straddle 2 columns horizontally and 2 straddle heads vertically.	
	This line straddles 2 columns.		This line also straddles 2 columns.			
	Column heading	Column heading	Column heading	Column heading	Column heading	Column heading

Any of the commands that can be given in straight text can be given in the Tabular Program. That, alone, opens a wide range of possibilities. As you study the examples above you should know that extra leading is allowed, but, although reverse

leading is possible, it is not used in Tab . . . which saves both time and materials. It's easy to create tab fields, to insert rules, to create straddle heads, to skew copy, etc.

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